NON-PLASTIC CONTAINER FOR STORING FOOD

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a non-plastic container for storing food, and in particular to an improved non-plastic container for storing food in which a lid fabricated using plastic based on an injection molding method is sealingly engaged to a non-plastic container body formed of a heat resisting glass, a stainless material, a heat resisting ceramic ware, etc.

2. Description of the Background Art

Generally, a container body of a container capable of storing foods is formed of a plastic material approved for storing foods, a heat resisting glass, a heat resisting ceramic ware, a stainless, etc. A lid detachably engaged to an opening of a container body formed of the above material is generally formed of a plastic material.

The plastic lid has a certain engaging structure capable of sealing engaging an opening of a container body for stably storing foods stored in the container body. Recently, a plastic lid capable of storing foods stored in the container body in a sealed state without any leakage has been developed. For

example, in the case of a food storing container with the Korean patent No. 335718 developed by the inventor of the present invention, locking wings are formed at four sides of the plastic lid wherein the locking wings are foldable. Each locking wing has at least more than one locking hole. In addition at least more than one locking protrusion engaged to the locking hole is formed in an outer side of the container body. In the above storing container, in a state that the lid is engaged to the opening of the container body, when each locking wing is folded in the direction of the container body, the locking protrusion of the container body is elastically inserted into the locking hole of the locking wing. At this time, since the locking wing operates to pull the lid itself in the direction of the container body, the lid is strongly pulled in the direction of the container body, so that the lid is very elastically engaged closely to the opening of the container body for thereby enhancing a sealing force of the lid.

In the case of the locking protrusion engaged to the locking hole formed in the locking wing of the lid, the locking protrusion is integrally formed in the container body by the injection molding method. However, it is impossible to form any protrusion in the container body formed of a heat resisting tempered glass, stainless or heat resisting ceramic ware that is a non-plastic material, the lid having the locking wing is not adapted to the non-plastic container body.

Therefore, in the case of glass, it has a melting point largely higher than the melting point of the plastic, and it is impossible to obtain a desired flexibility in

a melted state, the injection molding is impossible as compared to the plastic product. In addition, a mass production is impossible. In addition, a product made of glass does not have a complicated shape and has a small thickness difference. It is impossible to form a complicated shape having a thin thickness at an outer surface of the product. In the case that there is a large thickness difference in the glass product, the product may be broken or may have cracks during a cooling process after molding by a contraction difference during the cooling process.

In the case of the stainless material, it has a very high strength and does not have any rusts. However, a molding property is very bad due to its high strength. It is impossible to form a product having protrusions.

Therefore, in the cases of the non-plastic container body formed of glass, stainless material or ceramic ware and the plastic lid formed by the injection molding method, the engaging method of the locking hole and the locking protrusion is not adapted. Namely, the structure of Figure 10 is adapted.

The construction of the conventional container will be described. The non-plastic container body 100 includes an engaging shoulder 101 having a small size and protruded from an outer portion of the opening of the same. The plastic lid 200 includes a cover part 201 for covering the container body 100, a contact part 202 contacting with the opening of the container body, a covering part 203 for covering an outer side of the opening of the container body, a plurality of extension parts 204 downwardly extending from the portion opposite to the covering part 203 and

flexibly extending in the direction of the outer side, and an engaging protrusion 205 protruded from the inner surfaces of the extension parts 204 and elastically engaged and disengaged with the engaging shoulder 101 of the container body 100.

However, in the above described storing container, when the lid 200 is engaged to the opening of the container body 100, when the engaging protrusions 205 protruded in the direction of the opposite inner surfaces of the extension parts 204 are pressed and get close in the direction of the container body 100, the engaging protrusion 205 is elastically engaged to the engaging shoulder 101, and the lid 200 is engaged to the container body 100. However, since the engaging protrusion 205 is engaged to the engaging shoulder by an elastic recovering force of the extension part 204 itself, the engaging force is weak, and the lid 200 is pulled in the direction of the container body 100, so that it is impossible to obtain a desired sealing force. Therefore, the lid is easily disengaged. Therefore, the storing container formed of the non-plastic container body 100 and the plastic lid 200 cannot stably store the foods in the container body 100.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a non-plastic container for storing food that overcomes the problems encountered in the constructions between the non-plastic container body formed of glass, stainless or

ceramic ware and the plastic lid.

It is another object of the present invention to provide a non-plastic container for storing food capable of enhancing an engaging force between a non-plastic container body formed of glass, stainless, ceramic ware, etc. and a plastic lid for thereby largely increasing a sealing property therebetween. In addition, it is possible to stably store foods based on a high strength and high heat-resisting property of a container body.

To achieve the above objects, there is provided a food storing container formed of a non-plastic container body formed of glass, stainless, ceramic ware, etc., and a plastic lid formed of plastic, a food storing container having a non-plastic container body comprising a closed ring shaped plastic rim formed in an upper side of an opening of the non-plastic container body wherein the closed ring shaped plastic rim surrounds all outer surrounding portions of the container body; and at least more than locking protrusion integrally formed at the opposite sides of the plastic rim wherein the locking protrusions are inserted into locking holes formed in locking wings of the plastic lid.

The plastic rim is inserted into and engaged to an outer portion of the container body with a certain tensional force.

The plastic rim is formed based on a double injection method in a state that the container body is inserted into a plastic injection molding.

An engaging groove is formed on an outer surface of the upper side of the

opening of the non-plastic container body for enhancing an engaging force with the plastic rim.

When forming the plastic rim in the container body based on the double injection method, a plastic coating layer is integrally formed with the plastic rim wherein the plastic coating layer surrounds the outer surface and lower portions of the container body.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will become better understood with reference to the accompanying drawings which are given only by way of illustration and thus are not limitative of the present invention, wherein;

Figure 1 is a perspective view illustrating a non-plastic container for storing food according to the present invention;

Figure 2 is a cross sectional view illustrating a non-plastic container for storing food according to the present invention;

Figure 3 is a cross sectional view illustrating a state of use of a non-plastic container for storing food according to the present invention;

Figure 4 is a cross sectional view illustrating a non-plastic container for storing food according to another embodiment of the present invention;

Figure 5 is a cross sectional view illustrating a non-plastic container for storing food according to further another embodiment of the present invention;

Figure 6 is a view illustrating a construction that more than at least one locking protrusion is selectively formed each side of a container body according to the present invention;

Figures 7 through 9 are plane views of lids sealingly engaged to a container body according to the present invention;

Figures 10 and 11 are a disassembled perspective view and a cross sectional view of an engaged state of a conventional container.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The preferred embodiment of the present invention will be described with reference to the accompanying drawings.

Figure 1 is a perspective view illustrating a non-plastic container for storing food according to the present invention, Figure 2 is a cross sectional view illustrating a non-plastic container for storing food according to the present invention, Figure 3 is a cross sectional view illustrating a state of use of a non-plastic container for storing food according to the present invention, Figure 4 is a cross sectional view illustrating a non-plastic container for storing food according to another embodiment of the present invention, Figure 5 is a cross sectional view illustrating a non-plastic container for storing food according to further another embodiment of the present invention, Figure 6 is a view illustrating a construction that more than at least one locking protrusion is selectively formed each side of a

container body according to the present invention, and Figures 7 through 9 are plane views of lids sealingly engaged to a container body according to the present invention.

In the drawings, reference numeral 1 represents a non-plastic container body, and 2 represents a plastic lid. Here, the non-plastic container body 1 is formed of glass or stainless having a low molding property and a high heat resisting property or ceramic ware, and the plastic lid 2 is formed of a plastic material. In addition, the container body 1 and the lid 2 are fabricated separately from each other.

In the present invention, the non-plastic container body 1 is fabricated using glass or stainless or ceramic ware. The thusly fabricated non-plastic body 1 is inserted into a plastic injection molding. A plastic rim 3 is formed in such a manner that the outer portions of the upper part 11 of the opening of the container body 1 is fully surrounded by a double injection method. A locking protrusion 31 is integrally formed at the opposite portions in the rim 3 in such a manner that at least more than one locking protrusion in each portion or one locking protrusion in each surface of the container body.

A closed ring shaped plastic rim 3 having the locking protrusion 31 formed in the above manner is formed by an injection molding method and is inserted into an outer portion of the container body 1. At this time, the plastic rim 3 has a tension force, so that it is not easily disengaged.

In addition, when forming the non-plastic container body 1, an engaging groove 12 is formed at the upper portion 11 of the opening. When engaging the plastic rim 3 is to the outer portion of the container body 1 by the double injection method, the plastic rim 3 is inserted into the engaging groove 12 for thereby enhancing the engaging force of the plastic rim 3. The above construction method is adapted to the method that the plastic rim 3 is inserted and engaged.

In addition, when the plastic rim is processed by the double injection method in a state that the non-plastic container body 1 is inserted into the plastic injection molding, a plastic coating layer 32 may be integrally formed in such a manner that it surrounds the outer surface and entire lower portions of the container body 1 of the lower side of the rim 3. Therefore, it is possible to maintain a desired strength and heat resisting property. In addition, the outer construction of the container body may have various different colors and shapes.

Here, the plastic lid 2 is formed by an injection molding using a plastic material to correspond to the shape of the container body 1. The lid 2 includes a cover part 21 formed in a plane shape, and an engaging part 22 engaged to the opening of the container body 1. A locking wing 23 is formed in a surrounding portion of the lid 2 and is smoothly folded and unfolded along a hinge line. At least one locking wing 23 is formed in the opposite surfaces or the locking wing 23 is formed in each surface of the container body 1. A locking hole 24 into which the locking protrusion 31 is inserted is formed in each locking wing 23.

A sealing packing 4 formed of a silicon material is engaged in the inner side of the engaging part 22 of the plastic lid 2.

The operation of the present invention will be described as follows.

Figure 1 is a view illustrating the plastic container body 1 formed in a rectangular shape wherein each side has a rounder corner. In this embodiment of the present invention, the plastic rim 3 having the locking protrusion 31 is formed in the outer surface of the upper portion 11 of the opening of the container body 1 by the double injection method.

The plastic rim 3 formed in the non-plastic container body 1 maintains engaged to the upper portion 11 of the container body by an adhering force of the plastic itself and a contraction operation after the double injection. Therefore, even when the plastic lid 2 is repeatedly engaged and disengaged for many times, the plastic rim 3 is not separated from the container body 1.

In addition, when engaging the plastic lid 2 to the non-plastic container body 1, as shown in Figure 3, the surrounding portion of the opening of the container body 1 contacts with the sealing packing 4 engaged in the engaging part 22 of the lid 2, and the locking wing 23 formed in the lid 2 is rotated in the direction of the container body 1, and the locking wing 23 is pressed to the container body 1, so that the locking hole 24 is engaged to the locking protrusion 31. At this time, the protrusion position of the locking protrusion 31 is at the portion in which the locking wing 24 of the locking wing 23 is slightly moved in the lower direction and is

elastically and rightly engaged. Therefore, when the locking holes 24 of each locking wing 23 are inserted onto the locking protrusions 31 and are engaged thereby, the lid 2 itself is slightly moved down in such a manner that the lid 2 elastically presses the surrounding portions of the opening of the container body 1. Therefore, the sealing packing 4 engaged to the engaging part 22 is elastically pressed for thereby sealing the opening of the container body 1. Therefore, it is possible to engage the plastic lid 2 to the non-plastic container body 1 in a sealed state.

In addition, when separating the plastic lid 2 that is engaged to the non-plastic container body 1 in a sealed state, each locking wing 23 engaged to the locking wings 31 is disengaged, so that the locking holes 24 are escaped from the locking protrusions 31 for thereby disengaging the lid 2.

As shown in Figure 4, in the embodiment of the present invention, when the non-plastic container body 1 is molded using glass, stainless or ceramic ware as a source material, an engaging groove 12 is formed in a concave shape on an outer surface of the upper portion 11 of the opening, and the non-plastic container body 1 having the engaging groove 12 is inserted into the injection molding, and the process is performed in a state that the plastic rim 3 is engaged to the engaging groove 12 by the double injection method, so that the plastic rim 3 is more stably engaged. When the engaging groove 12 is formed in the container body 1, even when the plastic rim 3 is engaged by a simple insertion and adhering method, not

by the double injection method, it is possible to obtain a desired stability.

As shown in Figure 5, in the embodiment of the present invention, the non-plastic container body 1 is formed of glass, stainless or ceramic ware, and the container body 1 is inserted into the injection molding for engaging the plastic rim 3 based on the double injection method. A plastic coating layer 32 is integrally extended from the plastic rim 3 for thereby surrounding the outer surface and lower (bottom) of the container body 1. In the above embodiment of the present invention, the plastic lid 2 is engaged in a sealed state, and the plastic coating layer 32 surrounds the entire portions of the non-plastic container body 1, so that it is possible to protect the container body 1 from an external impact. In addition, it is possible to express various colors and shapes for thereby enhancing an outer look of the container.

In addition, as it is not shown in the drawings, in the case that the non-plastic container body 1 is formed in a circle shape, the plastic rim 3 may be inserted and adhered or the plastic rim 3 and the locking protrusion 31 may be integrally formed at the upper portions of the opening of the container body by the double injection method using plastic. In addition, the plastic coating layer 32 may be integrally formed and may surround the entire portions of the container body.

As described above, the plastic rim having the locking protrusions is inserted and engaged to the non-plastic container body formed using glass (including heat resisting tempered glass), stainless or ceramic ware (including heat

resisting ceramic ware) or the plastic rim is formed by the double injection method. In addition, the lid is formed of plastic material, and the container body is formed of a material having a high strength and heat resisting property. Therefore, any scratches are not formed on the surfaces of the container, and the products are stable. It is possible to fabricate a container having a heat resisting property. A stable and strong sealing state is achieved between the lid and the container body. In a state that the lid is engaged, the lid is not easily disengaged from the container body, so that it is possible to stable store foods.

In addition, in the case of the container body formed of transparent glass, the inner side of the container may be seen. It is possible to fabricate the container body having various colors and shapes. In the case that the outer side of the container body is coated using plastic material, it is possible to achieve various colors and shapes. The food storing container formed of the non-plastic container body and the plastic lid may be fabricated in various colors and shapes, so that the quality of the container is enhanced.

As the present invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, it should also be understood that the above-described examples are not limited by any of the details of the foregoing description, unless otherwise specified, but rather should be construed broadly within its spirit and scope as defined in the appended claims, and therefore all changes and modifications that fall within the meets and bounds

of the claims, or equivalences of such meets and bounds are therefore intended to be embraced by the appended claims.